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WHOLE No. 422

VERGIL'S SEAMANSHIP¹

Most editors of Vergil have never been near the water, and so they constantly misunderstand even those nautical matters which are properly explained in handbooks or special articles on ships. I myself speak very humbly. I was never a specialist in Vergil; I know nothing about sailing in Mediterranean waters or about handling either a square-rigged sailboat or a Roman trireme. But at least I know what a thunderstorm looks like from a small sloop, and I suspect that the passage between Scylla and Charybdis was like almost any inlet.

In Vergil's early poems, as we expect both from their subject-matter and from his inland origin, the rare allusions to the sea are conventional or false. The story of Scylla had impressed itself upon the young poet's imagination, and is told at length, in the *Ciris*, 56 ff., and in *Eclogue* 6.74-77. In *Culex* 348-357 there is a rather artificial account of a storm at sea. In *Eclogue* 8.7 mention is made of ships skimming the Adriatic shores. In *Eclogue* 2.26 Corydon uses the edge of the windless sea as a mirror!

The *Georgics*, we remember, were written partly at Naples, where Vergil grew familiar with the sea as seen from the shore. His main interest is, of course, still on land. He prefers the farmer's life (*G.* 2.490-512), but sailors are dependent on the same weather as farmers are (*G.* 1.429, 456-457), and many different kinds of trees are used in shipbuilding (*G.* 2.68, 442-443). Vergil's farmers, too, can fashion a skiff from a hollow tree (*G.* 1.136, 261-262), and sometimes row (*G.* 1.199-203), and fish in rivers (*G.* 1.141-142). A sailor's knowledge of the stars is mentioned in *G.* 1.137-138.

But the sailors whom Vergil knows are seen either from shore, as they furl their wet sails (*G.* 1.142, 373), as a storm breaks, or in port, crowning their ships as they haul them out for the winter (*G.* 1.304), or paying their vows to the little gods of the sea (*G.* 1.436). There is no indication, though the subject of the *Georgics* is partly responsible, that the poet, at this period of his life, was ever himself on a boat. There is, however, every proof that he spent much time on the beach² watching the swift birds as they return to shore in warning of a coming storm (*G.* 1.356-363, 383-389), or break the sunset stillness with their cries (*G.* 3.338), watching the waves as long, white rollers sweep in mountain high and break with a roar against a rocky coast, bearing black sand from the bottom on their

crests (*G.* 3.237-241). He has an especially keen ear now for the noises of the sea (*G.* 1.358; 2.160-164, 479-480; 3.239, 261; 4.262). He knows, too, the sad wreckage of poisoned fish or shipwrecked bodies which sometimes strew the sand (*G.* 3.541-543).

This real and intimate acquaintance with thmae rgin of the sea which we have been tracing in the *Georgics* naturally comes to the surface also in the *Aeneid*, regardless of whether its hero was at the moment afloat or ashore. For example, in 4.253-255, Mercury drops like a bird flying low near the water about rocks where fish gather. Here, to be sure, Homer is Vergil's source (*Od.* 5.53), but there is much in Homer that Vergil does not copy. In 5.124-128, the rock used as a goal for the boat-race is pounded by wintry waves, but is a quiet and sunny perch for gulls in calm weather. In 7.586-590 Latinus resists the call to war

'like a rock in the sea unmoved, like a rock in the sea when mighty crashes come, which by sheer mass holds, though many encircling waves bark, and the cliffs and the foam-clad ledges roar, and its side is strewn with seaweed cast up'.

Here again, as Conington points out, there is a reminiscence of Homer (*Iliad* 15.618-621), but Vergil has added the one touch which shows minute and personal observation—the seaweed left by the receding waves.

The following, too, is traceable to Vergil's walks near Naples, not to his reading of Greek epics (*A.* 9.710-714):

'<Bitias fell> as when a rocky pier falls on the Euboean shore of Baiae, which aforetime they built with mighty masses in the sea. So it falls forward with a mighty ruin, and, crashing into the shallow water, lies prostrate far below, and the seas pour about it, and the black sands cover it over'.

See also 10.693-696; 11.624; 12.365.

Let us turn now to the ships of the *Aeneid*. Were they Homeric ships of a single bank of oars, or were they the triremes, quinqueremes, and even larger vessels of the reign of Augustus?

Editors generally³, I think, do not realize that the references to non-Homeric ships are almost entirely confined to three short passages, two of which are professedly not descriptions of Aeneas's own fleet.

There is, first, the portrayal of the battle of Actium on Aeneas's armor (*A.* 8.675-693), where (691-693) we read:

'You would think that the Cyclades uprooted were swimming the deep or that high mountains were crashing against mountains, so huge were the threatening heroes' turreted poops'.

³So also Kunz, *Realien in Vergils Aeneis*, 15-17 (Wiener, Neustadt, 1894).

¹This paper was read at the Fifteenth Annual Meeting of The Classical Association of the Atlantic States, at Hunter College, April 23, 1921.

²Sir Archibald Geikie, *The Love of Nature Among the Romans*, 132.

Now we know⁴ that Anthony's fleet at Actium had ten banks of oars.

Again, in 10.166-167, the catalogue of the ships of Aeneas's Etruscan allies begins thus: 'Massicus cuts the waves in the brazen Tiger; under him are a thousand archers'. Abas brought 900, Asilas 1,000, Astur 300. Cinyrus commanded 'the huge Centaur, towering over the water with a monstrous rock threatening the waves from on high' (195-197). Mezentius sent 500 warriors (204). 'The monstrous Triton beat the waves with a hundred oars' (207-208). Obviously in this passage also Vergil has in mind the great war-galleys of his own day, ships so tall that landing from them was a problem. So in 287-290

'Aeneas lands his allies from the high sterns by means of bridges. Many watch for the ebb of the receding wave and with a leap trust themselves to the shoal waters, others slide down the oars'.

From one vessel which happened to lie near a pier of lofty rock (653-654) the men were disembarked by running out ladders (*scalae*) and lofty gangways (*pontes*. . . *altos*, 658). We hear of no such equipment or maneuvers in connection with the countless landings from Aeneas's own vessels in all the preceding books. They, to be sure, are constantly said to have high sterns (*celsae* or *altae puppes*), but that means only relatively high, compared to the waist of the ship.

Twice (at the end of a verse, 1.182; 8.79) Aeneas refers to some or all of his own ships as 'biremes'. The only other allusions to them as having more than a single bank of oars are in the boat-race of Book 5. That passage is so clearly an interlude that I am inclined to think that in it, as in the episodes of Books 8 and 10 which have just been discussed, the poet deliberately violated historical accuracy for the sake of contemporary interest. We know that Augustus established a permanent fleet at Misenum, which was an important naval station. What more likely than that in the boat-race Vergil is partly describing sports which he and many of his readers had seen?

Be that as it may, the Chimaera is clearly a trireme (5.118-120), and so too is the Centaur (5.271). Probably the other two are meant to be also. They all have triple *rostra* (143); their sterns also are brazen (198). They carry ironshod poles of two different kinds (5.208). These surely are not the vessels which inexperienced Trojan refugees built in the pine forests of Mt. Ida (3.5; 9.80).

Now, if in matters chronological I were not a natural conservative, I should be tempted to invent a theory about the order of composition of the books of the Aeneid from the fact that Vergil's references to non-Homeric ships are massed, as we have seen, in Books 5, 8, and 10, but it would have to be a brand new theory, for the facts fit none that I have found⁵.

⁴Plutarch, Antonius 61; Aeneid 8.692-693.

⁵A: Gercke, for example, in *Die Entstehung der Aeneide* (1913), makes Book 5 a very late book, which would correspond nicely to the isolation of the boats of the race, but most of his arguments (23 f.) are drawn from alleged inconsistencies in the two accounts of the death of Palinurus, and many of them seem to me entirely false. Thus *hiems* is constantly used of a chilling rain or cold weather, even in midsummer; waves seem much larger and colder to a swimmer than to one on a boat (6.351, 354, 356; 5.844, 870). Again, a steering-oar lashed firmly to the side might, if wrenched

What, then, were Aeneas's own ships like? Procopius⁶ tells us that a ship of one bank was preserved at Rome as a relic of Aeneas; it was about 120 feet long and 25 feet wide and presumably had 50 oars. The normal ship of the Odyssey had twenty oars and would have been only a little larger than a modern pound boat.

Aeneas started with twenty ships; one was lost in the great storm of Book 1, four were burned in Book 5, fifteen reached Italy and were turned into nymphs. The fleet, therefore, needed anywhere from 400 to 1,000 rowers, with at least 100 more for steering and tending sail. How many women and children were carried as passengers we have no means of estimating. Colonies were left in many places and there were some deaths. That the number of each ship was thought of as fairly large can be inferred from the food provided; thus Aeneas shoots seven deer for seven ships; Dido for 19 ships generously provides 20 bulls, 100 sheep, 100 lambs, 100 pigs.

When overhauling a ship after a winter in port (*aptare*, 4.289), the crew pull the hull (*carinae*) down to the water's edge (*litore deducunt*, 3.71; 4.398; compare 3.135); if necessary, they replace planks (*aptare trabes*, 1.552), cross-beams (*transtra novant*, 5.752; 3.289; 4.574; 5.663; *sedilia*, 5.837), and oars (*stringere remos*, 1.552; 5.753; 3.471, *remigium supplet*). The seams are caulked with tow (*stuppā*, 5.682), and the whole pitched (*uncta*, 8.91) and painted (*picta*, 8.93; 5.663) and put into the water (4.398).

The small, square sail (*velum*) of linen (*carbasus*, 3.357; *lintea*, 3.686) was then bent on (*classem velis aptare*, 3.472), being fastened along its upper edge to the yards, *antemnae* (3.549) or *braccia* (5.829)—two tapering spars juxtaposed at their thick ends⁷ and lashed together in the same horizontal line. The yards with the furled sail and the mast (*malus*) were laid in the bottom of the boat and the ropes were looked to (*aptare rudentes*). Baggage was loaded and stowed under the seats (3.465).

If an early start was intended, the crew slept aboard (4.555), or at least their places were assigned over night (*sortiti remos*, 3.510) and they camped on the beach near by. When the captain or the steersman gave the signal from the stern by a cry (4.572) or a trumpet blast (3.519; 5.139), the cable⁸ was cast off from the shore⁹, or, if necessary, was cut (*incidere funem*, 3.667; 4.575, 580). A start was made by rowing (3.289-290, 668; 4.574, 582; 5.15). If the wind served, the mast was then raised (*attolli malos*, 5.829) and braced by stays to the ends and the sides of

by a big wave (6.349, 354), easily carry away with it a section of rail or planking (5.858). I have seen a breaker remove a rowboat which we were using as a tender, not by parting the line by which she was towed, but by jerking loose a stout iron bolt to which the line was tied.

While we are discussing Book 5 let me digress for a moment to point out some differences between ancient and modern racing. Now-a-days a boat is disqualified if it grazes a buoy or a stake-boat, or if it loses a man overboard, or if the tiller changes hands during a race. If modern rules had been in force, two of Vergil's four contestants would have fouled.

⁶De Bello Gothico 4.22; Cecil Torr, *Ancient Ships*, 21.

⁷The outer ends were called *cornua* (5.832).

⁸Called generally *vinculum*: 1.168; 9.118; but called *retinaculum*, 4.580.

⁹*Litore funem deripere*, 3.266; *rumpite*, 3.639; *solvi*, 5.773. Compare G.1.457.

the boat. The yards were lifted in position (*intendi brachia velis*, 5.829) by pulling on the halyards, *rudentes*, which passed over a hook or a ring at the top of the mast¹⁰. The brail ropes, also called *rudentes*, which held the sail furled about the yards, were next shaken out and loosened¹¹. The sail was thereby loosened¹²; it dropped, and spread to the wind¹³; this part of the start, as with us, gives the general term for setting sail¹⁴.

In landing, similarly, the crew furl the sail (*vela legunt*, 3.532)¹⁵, turn in and row to shore (*proras ad litora torquent*, 3.532). On reaching land the prow¹⁶ is turned out, a metal, flanged anchor (not the Homeric stone) is cast from the bow and the stern is drawn up on shore¹⁷. In a river or where there was no shelving beach the boat was fastened to the bank by cables at both ends¹⁸.

The lack of docks and geodetic charts, not the lack of seamanship, was the reason why the ancients habitually dropped sail and rowed to shore, for they must come slowly enough to avoid rocks and choose a landing-place. The Mediterranean being practically tideless¹⁹, they were at least spared the great problem and the most absorbing topic of conversation of the modern sailor. Probably a good many dangers were spasmodically marked by local fishermen. Note that Aeneas used a 'bushstake' to mark the turning-point of the boat-race (5.129).

In tacking²⁰, the yards were swung from side to side by adjusting the sheets, *pedes* (5.831), ropes running aft from the lower corners of the sail to the rail on either side. If one may judge from the pictures (e. g. Baumeister, Denkmäler, 1621), it was customary partly to furl the rear half of the sail by pulling it up with the brail ropes on the arm that came aft²¹; the full sail on the forward arm would help to bring her bow around quickly (compare the similar use of the jib with a modern sloop rig). Such a maneuver would require several hands, but could be managed easily in a light wind²².

The ancient ship sailed best on a following wind (*prosequitur a puppi ventus*, 3.130; 5.777), i. e. with the sail squarely across the boat (*aequatis velis*, 4.

587)²³. This was partly because the shape of the keel gave little sidewise purchase on the water and centerboards were not used, partly because the square sail was top-heavy and lacked facilities for convenient reefing. Hence Palinurus flatly refused to keep on to Italy with a strong wind abeam (*mulati transversa fremunt*, 5.19); the boat did not manage and was blown off her course (5.21, 27). Still less, of course, could such a ship beat against the wind.

The steering was done by a huge oar (*gubernaculum*, 5.859; 6.349; its handle was the *clavum*, 5.852), held by the gubernator²⁴; the oar was lashed to the side of the boat in some fashion²⁵. One occasionally gets the impression that the steering-gear was not any too effective and that in rough water help from the rowers was needed to put about. Compare 3.562-563 contorsit laevas proram Palinurus ad undas, laevam cuncta cohors remis ventisque petivit. Constantly, of course, the rowing continued even when the sail was up and the wind favorable. This practice was un-Homeric.

On the whole, in good weather, Aeneas's ships compared very favorably for speed and safety with modern sailing-craft of similar size. Sailing free they could make about 75 miles a day (3.115); when the wind was light or contrary, they could row.

The daily discomforts and inconveniences of a long cruise would be greater than its dangers. Sea-sickness is not mentioned, but remember that there was no shelter from rain, wind, or sun, no privacy, no chance to lie down except on the hard benches, no chance to bathe or to cook. The crew normally landed to eat as well as to sleep. For their food they were dependent on hunting, stealing, or gifts. They carried with them only grain and wine, and after a storm the grain was watersoaked (1.177). One can feel a great deal of sympathy for the Trojan women who tried to burn the ships and put an end once for all to Aeneas's restlessness.

One of the puzzles is where Aeneas stowed the gifts which he was always giving and receiving. A huge bronze cauldron (3.464), for example, or a spirited horse (3.470; 5.565-567) is not a convenient object to keep under the seat of a boat. Note also that the men's shields were hung over the edge of the stern (1.183); was this solely for decoration or was it for the same reason that washtubs and dishpans are hung outside the window of a tenement house?

How much nautical knowledge was Aeneas supposed to have? In the early books, very little. Aeneas had been fighting for the last ten years and may have been an utter novice on the water²⁶. Anchises at first acts as captain as well as seer. He knows how long it will take to reach Crete from Delos (3.115-117), nor was his knowledge necessarily derived from his wife Aphrodite or from his mother, the Naiad Hieroneme (Dionysius of Halicarnassus 1.62.2), for Anchises

¹⁰They had no pulleys.

¹¹*Excussos laxare rudentes*, 3.267; *rudentes excutere*, 3.682; compare 8.708; 10.229. See J. C. Rolfe, *Studies in Philology*, University of North Carolina 17 (1920), 414.

¹²*Solvite vela*, 4.574.

¹³*Tendunt vela noti*, 3.268; *ventis intendere vela*, 3.683; *velorum pandimus alas*, 3.520.

¹⁴*Vela dare, passim*; compare 3.61, *dare classibus Austros*. So to retrace one's course is *dare lineam retro*, 3.687.—For the arrangement of sail and rigging some of the Egyptian ships pictured in the Sixth Egyptian room of the Metropolitan Museum of Art, in New York City, are most illuminating.

¹⁵*For vela cadunt* (3.207), 'drop', 'flutter', see Rolfe, 414.

¹⁶The prow was high like the stern and sheathed with bronze: 1.35; 9.121; 10.223.

¹⁷Compare 6.3-5: *obvertunt pelago proras; tum dente tenaci ancora fundabat navis, et litora curvae praetextunt puppes*. See also 3.277; 6.901; 3.135.

¹⁸Compare 7.106 *gramineo ripae religavit ab aggere classem*. See 9.118, for ships breaking loose from a mooring.

¹⁹Hence *aestus* should very rarely be translated by 'tide'.

²⁰Compare 3.549 *cornua velatarum advertimus antemnarum*; 5.15-16 *colligere arma*. . . *obliquoque sinus in ventum*; 5.28 *flece viam velis*.

²¹*Colligere arma* (5.15). See Torr, *Ancient Ships*, 95.

²²See 5.830-832 (after Neptune calms the waves): *una omnes fecere pedem pariterque sinistros, nunc dextros solvere sinus, una ardua torquent cornua detorquentque; ferunt sua flamina classem*. Compare Rolfe, 416.

²³Professor Knapp's translation, 'wing and wing', is an incorrect use of an English nautical expression.

²⁴3.269; 6.337; 5.12; *magister*, 6.353.

²⁵Torr, 77. Compare Bulletin of the Metropolitan Museum, December, 1920, Part II, 30-31, on Egyptian ships of about 800 years before Aeneas.

²⁶But compare Pauly-Wissowa, s. v. Aeneas (2).

had travelled in his youth; he was an old friend of Anius, king of Delos (3.80; Ovid, *Met.* 13.640 ff.), and in company with Priam he had gone to Salamis and Arcadia and had visited Evander (8.156). Palinurus also knows the Aegean; except in a long fog he can remember the way by the stars and the coasts. But Aeneas, leader as he is in hunting, fighting, and speechmaking, does not attempt navigation till after the death of Anchises and Palinurus. When the latter falls overboard with the rudder, Aeneas steers with some makeshift (5.868)—no one tells us what—though Palinurus was very nervous about his safety (6.352–354). And by 10.218 Aeneas steers and tends sheet on a huge war-galley as a matter of course. Such a development in knowledge and character on Aeneas's part—in all aspects, I mean, not in this single detail of seamanship—is the answer to Gercke's ingenious theory that the latter half of the *Aeneid* was written first.

How much sailing experience had Vergil himself had? We have external evidence for none before the fatal voyage to Greece, which was subsequent to the composition of the *Aeneid*, and his descriptions of scenery along the shore are so general that modern authorities who have seen the places are not agreed as to the limits of his personal knowledge²⁷.

Disregarding all that, however, I am quite sure that before Vergil wrote Books 1 to 6 he had spent some time on the water somewhere, probably in a fisherman's boat on the bay of Naples. It would be most unnatural for anyone to live year after year on the edge of such a body of water without ever venturing on it for a short journey or a day's outing. Besides, the description of Charon's crazy craft in Book 6 is too sympathetic for an absolute landlubber to have penned. That is exactly the sort of small, dingy work-boat which unkempt local fishermen and ferry-men have used on shallow waters for several thousand years or so—now sailing, now poling (6.302), now rowing (320), never sinking (415), but always a little leaky (414), always crowded (411–412) and messy (299), and invariably discharging its passengers on the mud at the edge of a marsh (416). Now Vergil may or may not have seen the Cyclades, but I am quite sure that sometime or other he was caught out in a bad thunderstorm in a boat of that general nature.

Let us look at a few points in the two famous storm passages.

In *Aeneid* 3.192 ff. the Trojans are sailing West or Northwest from Crete and out of sight of land, when late in the afternoon dark thunderclouds gather over their heads, darkness closes in early, and the temperature drops (194–195):

tum mihi caeruleus supra caput adstitit imber
noctem hiememque ferens, et inhorruit unda tenebris.

Note *hiems*, though it is probably August (141). Servius's comment on the phrase *inhorruit unda*

tenebris is "horridior est facta per tenebras". Conington explains as follows:

The picture seems to be of the surface of the water roughened or curled partly by the wind, partly by the darkness, which would change its outline to the eye. Perhaps we might say in English 'and darkness ruffled the billow's crest'.

Papillon-Haigh follow this interpretation:

the darkness itself being said to cause the roughness of the water, though both are due to the storm. *Tenebris* is instrumental ablative.

Professor Knapp has "the waves shivered at the darkness"; he takes *tenebris* as causal ablative. Similarly Rhoades translates by "the wave shuddered beneath the gloom". And so with all the commentaries which I have seen; they all clearly have the idea that the waves grew bigger because of the storm and seemed bigger than they were because of the darkness. But, while a thunderstorm is brewing, the wind regularly drops, becomes puffy and dies away, and there are a few minutes of dead calm before the rain starts. After wind and lightning have gone all around the horizon, the wind finally settles down from a different quarter, and the rain, if it continues, becomes a steady downpour. That apparently happened here (196–200):

continuo venti volvunt mare, magnaue surgunt
aequora; dispersi iactamur gurgite vasto.
Involvere diem nimbis, et nox umida caelum
abstulit; ingeminant abruptis nubibus ignes.
Excitimur cursu. . . .

In verse 195, then, *inhorruit unda tenebris* ought to refer to the moment when the storm breaks, before the waves have become large. If so, *inhorruit* may keep its literal force of 'bristle'. When the large rain drops of a bursting storm hit the surface of fairly calm water, they seem to indent it and bounce back or make a splash an inch or more in height. Often the splash catches the unnatural yellow-green light which accompanies an electrical storm and shows brightly against the black surface of the water. 'The water bristles in the darkness' exactly describes the phenomenon, which can only be seen from close at hand.

This particular thunderstorm was followed by a rainy night, so black that they could not see the waves (*caecis erramus in undis*, 200). The wind changed during the night (*excitimur cursu*). Palinurus, being without guidance of stars or compass, confessed himself utterly at a loss (201–202). Fortunately they were not near the shore, for three days and nights of fog followed (203–204):

tris adeo incertos caeca caligine soles
erramus pelago, totidem sine sidere noctes.

Incertos soles does not mean, as Professor Knapp has it, "the days were uncertain because one could hardly tell whether it was day or night"; fog does not make it dark so much as prevent one from seeing objects at a little distance. It simply means that until the fourth day (205–206), they could see no landmarks to steer by. That during those three days Palinurus kept his

²⁷See Gaston Boissier, *Country of Horace and Virgil*, especially the chapter on Sicily; Sir A. Geikie, *The Love of Nature among the Romans*, 365; T. R. Glover, *Studies in Virgil*, 106; W. Y. Sellar, *Virgil*, 386; B. L. D'Ooge, *The Classical Journal* 4.3–12.

twenty ships together without collision is the greatest miracle in the whole epic²⁸.

The outstanding characteristic of the storm of 1.82 ff. was the violence of the winds let loose by Aeolus. Editors mostly quote with approval Seneca (N. Q. 2.5.16): in unam tempestatem omnes ventos congregari posse negat. Heyne (Excursus III to Book 1) defends Vergil on the plea that shifting winds are common. Conington objects that all the winds left the cave at once. Conington is wrong. Vergil says (82-83): venti, *velut agmine facto* <'like a marching column', qua data porta, ruunt et terras turbine perfant. *Turbine* clearly refers to the way the wind and lightning "went all around the compass and part way around again" (Log of the "Gull", July 10, 1919).

The high winds from East and South and Southwest successively kick up a heavy sea; the boats roll and pitch in the darkness, until crew and captain alike lose their nerve (87, *insequitur clamorque virum*). It would have been more to the point if Aeneas, instead of groaning and praying (92-101), had taken down the sail when the wind began to whistle in the rigging (*stridorque rudentum*) and had trusted to the rowers to keep the boats headed²⁹. While he was still running before the Southwest wind, a gale from the North hit his sail squarely in front (103, *velum adversa ferit*). The boat of course lost headway and refused to steer, the oars were dashed from the rowers' hands and broken or lost (104), the bow then fell off, and the boat got in the trough of the sea, which was growing worse, and was swept by one huge wave before she could be put about.

More serious yet, this blast from the North drove the whole fleet on to a lee shore and the ships got among the breakers (106-107). Returning gusts of South and East wind drove three upon a hidden reef (108-110), and three upon the quicksands. Orontes's ship was pooped by a big sea which swept the helmsman overboard; she was whirled about three times and swamped. Four others were in serious danger of swamping from leaks, for the strain of the violent tossing had loosened the caulking and they were yawning at every seam.

The rain in this storm was violent but brief; it is probably meant to be included among the elements of *hiems* (122, 125; *imbrem*, 123, may mean sea-water), and is particularly referred to by *caeli ruina* (129), "the deluge from on high" (Papillon-Haigh; Knapp, "the sky threatens to crush them"!). Crashing thunder (so Servius interprets) would be nerve-racking but not dangerous. A heavy rain, however, may be serious in a leaky boat that has already shipped a few seas and that possesses no pump and no self-bailing cockpit. The squall stopped as suddenly as it came, the wind ceased, the waves diminished, and the sun came out. Everybody, even the gods, then got overboard and helped push the vessels off the rocks and wade in search of a deep channel through the

sandbar. And finally the very wet, weary, and hungry sailors of seven ships reached a peaceful haven (170-174).

NEW YORK CITY

MARY BRADFORD PEAKS

REVIEWS

Griechische Verskunst. By Ulrich von Wilamowitz-Moellendorff. Berlin: Weidmannsche Buchhandlung (1921). Pp. IX + 630.

With an overwhelming amount of details, Professor Wilamowitz has, in his elaborate work, *Griechische Verskunst*, caused another 'oscillation' in the rhythmic pendulum of classical philology. It will be possible merely to present the most striking characteristics and points of the book, and to give some general account of its contents.

The purpose of the book is to attempt to explain the Greek verse-forms in a historical manner—to seek their origins and to trace their development through the various periods of literary production. To this historical presentation (1-136) there are added—because the two are inseparably bound together in the endeavor to obtain the historical information—a treatment and analysis of single verse-forms (137-607). Part I (1-136) contains the most important portion of the book; Parts II and III (137-486, 487-607) contain the material basis of the historical study, and some applications. As the author candidly recognizes, the arrangement is somewhat disproportionate; but perhaps no better arrangement could have been secured.

Modern versification and the tradition of metrical doctrines are studied in comparison with the versification of the Greeks (1-24), modern German being used as the ultimate example of the modern. German versification is an imitation of the Latin (7-11), and shows in the hexameters the influence of Vergil and Ovid. This statement elicits the remark that Latin and Greek versification are not the same; some attempt is made to show the differences between the two—largely inherent in the linguistic materials of the two classical races.

After having established a contact, as it were, between Antiquity and Modernity, the author endeavors to account for the existence of rhythm (25-34). Rhythm is a part of nature itself and is present in nearly all the activities of mankind, whether work or play¹. Man's part was to appreciate this rhythm², to learn the laws that govern it, and to reduce it to a *τέχνη* which would render it serviceable for him. Next (35-42) follows an excellent brief account of the growth of epic, elegiac, iambic, lyric, and dramatic poetry. From 800 B. C. on the Greeks produced a number of poetic forms (42-44); but by 320 B. C. the impulse had been exhausted. Nothing new was produced; and there was no poetry that was above learned imitation. Toward

²⁸A fact which has struck me as rather remarkable in rereading the *Aeneid* for this paper is that there is no mention of Aeneas's ever meeting or seeing another ship outside his own. Yet compare 1.224, *mare velivolum*.

²⁹Vergil, even in the period of the *Georgics*, was a better sailor; see G. I. 373.

¹Plato, *Laws* 653 D, and *Timaeus* 47 D, is here cited.

²Rhythm and meter are not to be confused: meters are merely measures, or lengths, of a given rhythm.